AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 1, line 20, with the following amended paragraph:

The invention relates to a non-destructive testing method of determining the depletion of a coating after use in a high temperature environment ~~according to the independent claim~~.

Please replace the paragraph beginning at page 3, line 1, with the following amended paragraph:

Many services exposed turbine ~~component~~ components are metallurgical investigated because ~~the~~ of the main question of coating degradation. Non-destructive Testing (NDT) ~~method~~ methods can provide essential information, such as ~~residua~~ residual coating lifetime, coating thickness distribution and any kind of delamination defects. NDT methods lower the need of time and cost consuming destructive metallurgical investigations. However due to the variability of the microstructure γ/γ'-coatings the applicability of NDT eddy current methods for estimating the effective thickness of service exposed coatings is not straight forward.

Please replace the paragraph beginning at page 5, line 3, with the following amended paragraph:

As an example FIG. 1 shows an article 1 such as blades or vanes of gas turbine engines, the gas turbine blade comprising a root portion 2, a platform 3 and a blade 4 and cooling holes 5. On the external surface 7 a MCrAlY-coating 6 is

applied. The component can be made from a Nickel base superalloy ~~know~~ known in the state of the art, e.g. from the document US-A-5,888,451, US-A-5,759,301 or from US-A-4,643,782, which is known as "CMSX-4".

Please replace the paragraph beginning at page 6, line 14, with the following amended paragraph:

At temperatures above 900°C the α-Cr phase starts to dissolve and with increasing temperature and time the fraction of the α-Cr phase decreases permanently until the α-Cr phase is completely dissolved. The cooling rates during an engine stop are generally ~~to~~ too high for a re-precipitation of the α-Cr phase. This means that the microstructure of a SV20 coating, which was subjected to temperatures higher than 900°C, shows a lower α-Cr phase content compared to its equilibrium condition. The SV20 coating depletes at this temperature mainly from Al as the SV20 coating forms Al-oxides as the protective oxide scale. The degradation level of the SV20 coating above 900°C can be metallographically investigated by measuring the thickness of the γ' free layer. The coating is considered exhausted when an Al content lower than 3 wt % is reached.

Please replace the paragraph beginning at page 6, line 27, with the following amended paragraph:

At elevated temperatures of above 1000°C a phase transformation according to $\alpha + \gamma' \leftrightarrow \beta + \gamma$ takes place. The α-Cr phase is entirely dissolved and the γ and Al-rich β phase are in an equilibrium condition. During an engine stop the cooling rates

are generally ~~to~~ too high for a complete re-transformation to the equilibrium microstructure at RT. Such SV20 coatings, which were subjected to temperatures above 1000°C in service, show a non-equilibrium microstructure at RT consisting of all four phases: $\alpha + \gamma' + \beta + \gamma$.

Please replace the paragraph beginning at page 8, line 14, with the following amended paragraph:

The influence of the non-equilibrium microstructure from the coatings aged above 900°C on the eddy current data is significant. Those coatings seem to be heavily depleted and degraded due their non-equilibrium structure. With increasing ageing temperature the fraction of the α-Cr phase decreases permanently which results in a lower normalised impedance curve obtained by the frequency scanning eddy curry system. At temp. >950°C the β phase occurs which then results again in an increase of the normalised impedance curve. The normalised impedance curve for the 950°C-exposed sample is the lowest. After the additional heat treatment at 800°C/20 h, resulting in a re-transformation of the non-equilibrium to the equilibrium microstructures, the normalised impedance curves return to be similar to ones obtained for the as-applied condition.